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AN ASSESSMENT OF SERVICE QUALITY AND CUSTOMER SATISFACTION ON FIXED BROADBAND INTERNET SERVICES OF ETHIO TELECOM

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ASSESSING THE EFFECT OF SERVICE QUALITY FACTORS ON FIXED BROADBAND INTERNET CUSTOMERS SATISFACTION IN ADDIS ABABA, THE CASE OF ETHIO TELECOM

By

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LIST OF ACRONYMS

3G Technology: Third Generation Technology

ADSL: Asymmetric Digital Subscriber Line

CDMA: Code Division Multiple Access

E-Commerce: Electronic Commerce

EPON: Ethernet Passive Optical Network

ET: Ethio Telecom

ETC: Ethiopian Telecommunications Corporation

EVDO: Evolution Data Optimized or Evolution Data Only

FBBI: Fixed Broadband Internet

GPON: Gigabit Passive Optical Network

ICT: Information Communication Technology

ITU: International Telecommunication Union

LAN: Local Area Network

Mbps: Mega Byte per Second

NGOs: Non-Government Organizations

PSTN: Public Switched Telephone Network

SPSS: Statistical Package for Social Sciences

VDSL: Very high bit rate Digital Subscriber Line

VSAT: Very Small Aperture Terminal

WCDMA: Wideband Code Division Multiple Access

Wi-Fi: Wireless Fidelity

WLANs: Wireless Local Area Networks

ZTE Corporation: Zhongxing Telecommunication Equipment Corporation

Abstract

Customer satisfaction assessment is an important part in telecommunication as it is a core part for a service giving company. Companies that are unable or unwilling to properly serve their customers to meet their satisfaction stand to lose the customers' business. The aim of this research is to assess customer satisfaction of fixed broadband internet subscribers of Ethio telecom in Addis Ababa The primary objective of this study is to assess the overall satisfaction level key account customers with broadband internet service. The study was conducted on fixed broadband internet subscribers of enterprise customers in Addis Ababa. The five SERVQUAL dimensions developed by Parasuraman et al (1988) and additional two dimensions specific to telecom sector (convenience and network quality) were used to assess the customer satisfaction. To select representatives the probability sampling techniques was applied. Altogether out of the 202 distributed questionnaire 165 (84.6%) responded questionnaire were used for analyzing the study. For the analysis part both the descriptive and inferential statistics were measured using some measures of central tendencies and Statistical Package for Social Sciences (SPSS) Version 20. And to estimate the relationship and effect of each SERVQUAL dimension on customers' satisfaction the simple and multiple regression models were applied. The finding shows that the majority (73%) of respondents are dissatisfied. The result of the study also stated that network quality is the most influential dimension which can influence the overall satisfaction of the customers. Generally, since the satisfaction level of the enterprise (key account and SOHO/SME) fixed broadband internet service customers are below average, that is 27%, ethio telecom should work hard to improve its customer's satisfaction. And the enterprise customers are demanding more improvements on the network quality aspects of fixed broadband internet service than the other service quality dimensions

Key words: Service quality, customer satisfaction, SERVQUAL, Fixed broadband internet service

CHAPTER ONE

INTRODUCTION

This chapter presents an overview of the entire study. It includes the background of the study, statement of the problem, objective of the study, research questions, significance of the study, operational definition, delimitations of the study, limitation of the study and organization of the study.

1.1 Background of the study

Customer satisfaction is the concept that occupies a central position in marketing though and practice (Potluri & Mangnale, 2010). Customer satisfaction is actually how customer evaluates the ongoing performance (Gustafsson, Johnson & Roos, 2005) and it is a critical issue in the success of any business system in today's business world (Ahmed, Nawaz, Usman, Shaukat, Ahmad and Iqbal, 2010). According to Atalik and Arslan (2009) the ability of a service provider to create high degree of satisfaction is crucial for product differentiation and developing strong relationship with customers. However one key challenges of this market is how they satisfy and retain their customers and also manage service quality, which holds a significant importance to customer satisfaction and their perceived performance.

Customer satisfaction is influenced by many factors such as service quality and price. However, quality had a long term impact on the satisfaction of customers (Ahmed *et al*., 2010). Atalik and Arslan (2009) found that creating value and offering quality of service offered to customer creates loyal customers. According to Zhao, Bai, and Hui (2002) because of its unique characteristics it is difficult to measure service quality objectively. Researchers have used different instruments to measure service quality but the most widely used instrument is SERVQUAL scale. SERVQUAL scale is the measures of service quality based on the gap between expectation and performance. Within SERVQUAL model there are five specific dimensions of service quality: tangibles, reliability, responsiveness, assurance and empathy (Parasuraman, Zeithaml, & Berry, 1988).

The introduction of telecommunication services in Ethiopia dates back to 1884, seventeen years after the invention of telephone technology in the world. It was Minilik II, the King of Ethiopia, who introduced telephone technology to the country around 1884, with the installation of 477km.

long telephone and telegram lines from Harar to Addis Ababa. Ethiopian Telecommunications Corporation (ETC) is the oldest public telecommunications operator (PTO) in Africa. It is a state owned enterprise and the sole telecom service provider in the country.

The telecommunication services in Ethiopia have made rapid stride both in quality and quantity. However, the subscribers at large are found dissatisfied with quality and quantity of the services made available to them. The process of technological sophistication has gained the momentum but the users are yet to get the quality and quantity of service (Tele Negarit, 2007).

Telecom services in Ethiopia has counted over a century but the growth, penetration rate and quality of the telecom sector is still at a lower level stage compared to other countries. Accordingly, the Ethiopian Government makes agreement with the world-class telecom operator, France telecom which has viable experience and capability in the sector so as to render world standard telecom services. As the result of the transformation of Ethiopian Telecommunication Corporation to Ethio Telecom it was announced that the overall goal of Ethio Telecom includes ensuring and institutionalizing an internationally recognized world-class telecom infrastructure and telecom service provision with the primary target of operational quality and efficiency, profitability, customer satisfaction and capacity building of workforce. Ethio telecom has a mission of rendering a nationwide reliable Telecom network infrastructure as well as implementing critical enterprise and business processes in satisfying customers, enhancing service capability throughout Ethiopia. Moreover, Ethio telecom makes discounts in its services and especially about 85% discounts on its broadband internet service prices and implements new marketing strategies.

Appreciating the attempt of Ethio Telecom upgrading its infrastructure and telecom service provision to world class standard, the assessment of quality of services and customer satisfaction is important.

Therefore, this research will try to gain better understanding of the service quality dimensions that affect customer satisfaction with fixed broadband internet services and overall customer satisfaction.

1.2 Problem statement

Customer satisfaction is a critical issue in the success of any business system (Ho &WU, 1999). According to Potluri and Mangnale (2010) customer satisfaction is the key to survival and the source of competitive advantage for organizations (Anderson, Fornell & Lehmann, 1994). Empirically, researches support the concept that there is a positive relationship between customers' satisfaction and financial performance (Rust & Zahorik, 1993; Anderson *et al.*, 1994). However, the case in Ethio telecom is the reverse to what the researchers found. Which means the organization is always profitable and has strong financial performance but when we see from the customer side customers are dissatisfied with most of its services. This is because Ethio telecom is the sole telecommunication service provider it has 100% market share with the highly growing telecom service demand in Ethiopia.

Customer satisfaction is influenced by various factors. According to Andaleeb and Conway (2006) service quality is the main driving factor for satisfaction of customer in service sectors. Therefore a firm should concentrate on the improvement of service quality and charge appropriate fair price in order to satisfy its customers who would ultimately help the firm to retain its customers (Gustafsson *et al.*, 2005). Telecom sector like other sectors is not exception to the rule. Henkel, Houchaime, Locatelli, Singh, Zeithaml, and Bittner (2006) found satisfied customers of telecom sector have high extent of usage and intentions to repurchase in future.

Mussie (2010) in his study conducted on service quality and customer satisfaction with mobile services found that 59.1% customers are dissatisfied with the Ethio telecom mobile service. Similarly, Potluri and Mangnale (2010) who conducted investigation on Ethiopian Telecom customer satisfaction reported that about 57% of the customers are dissatisfied with the overall performance of the Ethio telecom services. According to Potluri and Mangnale (2010) the main areas of dissatisfaction was found that particularly service quality, tariff structure, service encounter, service delivery process, bill payment area, complaint handling procedures and after sales services. This study was conducted on all types of services of ET rendered to all types of customers.

ITU (2011) report shows that as of the end of 2011, internet penetration in Ethiopia stood at 1.1 percent, up from 0.75 percent in 2010 while fixed broadband subscriptions is only 0.01 per hundred inhabitants which is the lowest compared to the sub- Saharan African average which is 1.3 percent for internet service. Such penetration rates represent extremely limited access to information and communication technologies (ICTs) by global comparison.

Even though former Ethiopian Telecommunication Corporation (ETC) launched broadband internet service, the company is getting many negative feedbacks from the customers in terms of service provisioning, speed, price & quality.

As part of rectifying the inherent problems ethio telecom has initiated new strategies to provide solutions to its customers and enhance satisfaction in order to do that it has transformed from the former Ethiopian Telecommunication Corporation to Ethio telecom as of December 2010 and France telecom has taken over the management and new strategies include new tariff, price discount, new promotion strategy, new product and services, new service delivery process and the like are been part of the transformation However, as the public opinion and as the researchers conducted in various services customers are dissatisfied with the service performance of Ethio telecom. Therefore, the problem of the study is to determine the overall satisfaction of customers with the fixed broadband internet service provided by Ethio telecom. Further, this study has investigated the relationship of service quality and customer satisfaction using the SERVQUAL instrument (tangibles, reliability, responsiveness, empathy, assurance) given by Parasuraman, et al. (1988) and two additional dimensions continence and network quality.

1.3 Research Questions

In order to investigate the above problems this study has intended to answer to the following research questions:

- ✓ What is the overall level of customer satisfaction towards fixed broadband internet services of ethio telecom?
- ✓ Which quality dimension has high level of service quality gap in fixed broadband internet services of Ethio telecom?
- ✓ What is the relationships between the overall service quality and customer satisfaction in fixed broadband internet services?
- ✓ How significant are the service quality dimensions in predicting overall service quality and satisfaction with fixed broadband internet services of Ethio telecom?
- ✓ How customer expectation verses with service perception

1.4 Objective of the Study

The main objective of the study is to assess the satisfaction level of FBBI subscribers' of Ethio telecom in Addis Ababa.

1.4.1 The specific objectives

In addition to the above general objective, the following specific objectives will be investigated

- ➢ To measure the overall level of customer satisfaction on the broadband internet services of ethio telecom..
- ➢ To identify service quality dimensions which has a higher gap in fixed broadband internet service of ethio telecom
- ➢ To determine the relationship between service quality of fixed broadband internet service and customer satisfaction.
- ➢ To measure the service gap between customers expectation with perception of the current level of fixed broadband internet services along the service quality dimensions.
- ➢ Finally to suggest possible ways of improving the quality of fixed broad band internet service on the basis of the findings.

1.5 Significance of the study

The result of the study could have multiple benefits. One of the most important is that the findings can be used to bring about improvements in the Ethio telecom broadband internet service, thereby, satisfaction of existing customers and possibility of attracting potential users. In addition it can help the ET to reallocate resources in areas that have greater influence on customer satisfaction. Moreover, the study was an opportunity to the researcher to apply the theoretical knowledge and to provide additional information to existing literature on customer satisfaction on broadband internet service.

1.6 Scope of the Study

The research project was confined only to fixed broad band internet customers of ethio telecom means Narrowband and wireless types of broadband internet connections are not included in this study and in addition the research will focus only to Addis Ababa Customers.

1.7 Organizations of the Study

This study is divided in five chapters. The first chapter contains the introduction part. The second chapter will present related theories and previous studies related to the topic (literature review). The third chapter contains research methodology and design used in this study. In chapter four the data collected during the data collection process will be presented that is it contains an analysis of the empirical data. Finally chapter five will present the summary of findings, conclusion and recommendations, and limitation and implications for further research.

1.8 Operational Terms

Broadband: ITU describe broadband as recent Internet connections that range from 5 times to 2000 times faster than earlier Internet dial-up technologies and it combines connection capacity (bandwidth) and speed.

Enterprise Customers: are those legally registered enterprises who subscribe telecom services to support the day to day activities of their business. This category of customers' accounts 20 percent of the total number of subscribers and generate 80 percent of the company's revenue.

Residential Customers: are those subscribers who subscribe telecom services for their personal and/or family usage. This category of customers comprises 80 percent of the total number of subscribers and generates 20 percent of the company's revenue.

Key Account Customers: are those enterprise customers having more than 50 employees with one million birr or above capital. It accounts a total of 17 percent of all enterprises in Ethiopia. Beside the above category, Ethio telecom categorizes all ministry offices and authorities, banks and insurances, embassies and NGO's under this category.

SOHO/SME Customers: are those enterprise customers having less than 50 employees with below a million birr capital. It accounts a total of 83 percent of all enterprises in Ethiopia. All enterprises which are not categorized under key account were included in this category.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter demonstrates the review of related literatures. It includes customer satisfaction, determinants of customer satisfaction, Models for customer satisfaction, Measures of service quality, Model of service quality gap and criticisms of SERVQUAL.

2.1 Customer Satisfaction

The concept of customer satisfaction occupies a central position in marketing thought and practice (Ho & Wu, 1999). In today's highly competitive world customer satisfaction is important for all organizations to create and keep competitive advantage and to get feedback about the quality of marketing decisions (Ptterson, 1993; Taylor & Baker, 1994: as cited in Goode, Davis, Moutinho & Jamal, 2005). According to Singh and Khanduja (2010) satisfied customers form the foundation of any successful business as customer satisfaction leads to repeat purchase, brand loyalty, positive word of mouth and profitable relationships. According to Hanif, Hafeez and Riaz (2010) customer satisfaction makes the customers loyal to one telecommunication service provider. Hence, customer satisfaction is very important in today's business world and the profitability and survival of any organization depends on the ability to create high degree of satisfaction.

Studies have shown that it costs about five times to gain a new customer as it does to keep an existing customer (Naumann, 1995) as cited in Samuel (2006) and this result into more interest in customer satisfaction. Thus, several companies are adopting customer satisfaction as their operational goal with a carefully designed framework.

2.1.1 Definition of Customers' Satisfaction

Most researchers agree that satisfaction is an attitude or evaluation that is formed by the customer comparing their pre-purchase expectations of what they would receive from the product to their subjective perceptions of the performance they actually did receive (Sriyam, 2010). According to Hansemark and Albinson (2004) as cited in Zekiri (2011) "satisfaction is an overall customer attitude towards a service provider, or an emotional reaction to the difference between what customers anticipate and what they receive, regarding the fulfillment of some

needs, goals or desire". Kotler and keller (2006) defines satisfaction as a person's feelings of pleasure or disappointment resulting from comparing a product's or service's perceived performance (or outcome) in relation to his or her expectations. Customer satisfaction is also defined as an "evaluation of the perceived discrepancy between prior expectations and the actual performance of the product" (Samuel, 2006).

These definitions of customer satisfaction have in common that, if the performance falls short of expectations, the customer is dissatisfied. If the performance matches the expectations, the customer is satisfied. If the performance exceeds expectations, the customer is highly satisfied or delighted. In conclusion, customer satisfaction is defined as a result of customer's evaluation to the consumption experience with the services. However, the customers have different levels of satisfaction as they have different attitudes and perceived performance from the product/service.

2.2 Determinants of Customer Satisfaction

The customer satisfaction literature confirms that the most direct determinants of satisfaction are quality of service, customer expectation and perceived value and performance (Parasuraman, *et al*., 1988, Wang & Lo 2002; kotler & Keller, 2006).

Most scholars accept that service quality basically relates to what the customer perceives of the product/service performance. According to Ahemed et al. (2010) quality is the main determinant of customer's satisfaction in both manufacturing and service quality. Gronroos (2001) stated that perceived service quality is an important determinant of customer satisfaction that has both cognitive and affective dimensions beyond just cognitive assessment of customers of the offering of service providers.

The second most important determinant of customer satisfaction is customer expectation. It has been found out that expectation plays a major role in determining satisfaction. According to expectancy disconfirmation theory (Parasuraman *et al*., 1988) customer is satisfied if the performance of product/service is equal to his/her expectations (positive disconfirmation) and he/she is dissatisfied if the product/service performance is perceived to be below his/her expectation (negative disconfirmation). If expectation exceeds perceived performance, the customer is highly satisfied. The other perspective of the disconfirmation is that customer

satisfaction relates to a comparison of customer perceive quality with perceived performance, rather than comparing expectation with perceived performance (Gronroos 2001).

Customer satisfaction is also driven by perceived value. Several studies have shown that perceived value is significant determinant of customer satisfaction (Anderson *et al*. (1994); McDougall and Levesque (2000). Turel and Serenko (2004) in their investigation of telecom services in Canada suggested that the degree of perceived value is a key factor affecting customer satisfaction. Though the concept of value is relative and has several dimensions to it, Zeithmal (1988) considers customer value as the overall assessment of the utility of a product based on perception of what is received and what is given.

The perceived value process involves a trade-off between what the customer gives such as price/money, sacrifice, perceived risk, opportunity cost, and learning cost in exchange for what he/she gets such as quality, benefits, utilities (Wang & Lo, 2002; Zeithmal, 1988). Conceptually, since what the customer gets for what he/she gives is based on performance of the product /service, what he/she gives became a standard for comparison. In this, a sort of disconfirmation occurs in that the customer becomes satisfied if the performance of product/service is equal to what he/she gives (positive disconfirmation); he/she is dissatisfied if the product/service performance is perceived to be below what he/she gives (negative disconfirmation). If what he/she gives exceeds perceived product/service performance, the customer is highly satisfied. It is called as value-disconfirmation.

Researches manifest the fact that there is some kind of intertwine relationships among all antecedents of customer satisfaction (Wang & Lo, 2002). It is established empirically that customers overall cognitive or affective evaluation is based on basically the service quality, but the customer's perception of the performance of the service quality encountered is compared with some cognitive or affective standard like his/her expected quality, perceived quality or value quality.

2.2.1 Service quality

Service quality has been given increased attention in recent years, due to its specific contribution to business competitiveness. Because of the difficulties in defining and measuring service quality, it is a concept that has aroused considerable interest and debate in the research literature

(Wisniewski, 2001). According to M. Rahaman, Abdullah and A. Rahman (2011) service quality is an approach to manage business processes in order to ensure full satisfaction of the customers which will help to increase competitiveness and effectiveness of the industry. Definition of service quality revolves around the idea that it is the result of comparison that customers make between their expectations about a service and their perception of the way the service has been performed. Service quality can thus be defined as the difference between customer expectations of service and perceived service performance.

Parasuraman *et al*. (1988) defined service quality as the difference between customer expectations and perceptions of service. Service quality is a measure of how well the services (as received) match expectations (as preconceived). According to Parasuraman, Zeithaml and Berry (1985); Dehghan (2006) customers will be dissatisfied if expectations are greater than performance that is perceived quality is less than satisfactory. They proposed service quality to be a function of pre-purchase customer expectations, perceived process quality, and perceived output quality.

Customers form service expectations from many sources, such as past experiences, word of mouth, advertising and previous experience with the service (Kotler & Keller, 2006). The notion of service quality involves more than the outcome quality; the methods and manner by which the service is delivered are of great importance. In the growing global communications industry, service quality has become increasingly important, as telecommunication firms strive to protect their subscriber bases.

2.2.2The relationship between service quality and customer satisfaction

Service quality is an important tool to measure customer satisfaction and there is a close relationship between service quality and customer satisfaction (Kadir, Rahmani & Masinaei, 2011). Wang and Lo (2002) in their study of china's telecommunication industry found that service quality has positive or negative influence on customer satisfaction. Ahmed et at., (2010) in their study Impact of Service Quality on Customers Satisfaction in telecom sector found that all the SERVEQUAL dimension have a significant relationship with the satisfaction of customers. Many authors who studied the relationship between perceived service quality and customer satisfaction have shown that service quality determines customer satisfaction (Anderson *et al*., 1994; Rust & Zahorik, 1993; Wang & Lo 2002; Yavas, Benkenstein &

Stuhldreier 2004). However, although much has been written on the relationship between service quality and satisfaction Caruana, Money and Berthon (2000) found that customers who believe that the service firm provides high levels of service quality does not mean that highly satisfied. In other words, satisfaction does not depend on service quality alone and higher levels of quality are worthwhile the extent that customers believe that value is being enhances.

2.3 Models for Customer Satisfaction

Fernandez-Gonzalez and Prado (2007) in their study of "Measurement and analysis of customer satisfaction: company practices in Spain and Portugal" discussed about different models of measuring customer satisfaction by referring various literatures.

According to Fernandez-Gonzalez and Prado (2007), customer satisfaction can be measured by SERVQUAL Model (Parasuraman *et al.,* 1988). Moreover it can be measured using Expectancy-Disconfirmation Model, Performance only Model (SERVPERF) Attribute Importance Model, Norms Model and Attribution Model (Reisiq & Chandek, 2001; Al-Hawari & Ward, 2006; Kandumpully, 2002; Kurtenbasch, 2000; Tontini & Silveira, 2007; Kim, Lee & Yun, 2004; Fecikova, 2004 &Casado& Ruiz, 2002: all are cited in Mussie, 2010). Among all these models, the SEVQUAL Model is still the most robust in measuring customer satisfaction in many organizations. Since the aim of this study is to assess service quality dimensions impact on customer satisfaction, the focus will be on SERVQUAL model.

2.4 Measures of Service Quality (SERVQUAL)

Service quality is difficult to measure objectively, since services have been described as intangible, heterogeneous and inseparable (Zhao *et al.,* 2002). Many years, researchers have proposed and evaluated alternative service quality models and instruments for measuring service quality (Zhao *et al.,* 2002). Among them SERVQUAL Scale is mainly used for measuring service quality of services providing organization (M. Rahaman et al., 2011). The SERVQUAL scale has been tested and/or adapted in a great number of studies conducted in various service settings, cultural contexts and geographic locations like the quality of service offered by department store (Zhao *et al.,* 2002), mobile communications (Lai & Hutchinson; Li and Bai, 2007), telecom service (Joshi, P. Khurana & S. Khurana, 2010) and online banking and ATM services (Kadir *et al.*, 2011). Singh and Khanduja (2010) suggest that organizations can assess at least five dimensions of service quality to ascertain the level of services provided and to

determine which dimensions need improvement. Assessing service quality and better understanding how various dimensions affect overall service quality would enable organizations to efficiently design the service delivery process and allocate resources to provide better service to customers.

Therefore, SERVQUAL, a model developed by Parasuraman *et al.* (1988), is the most prominent and widely used model for measuring service quality and customers' perceptions of service quality Singh and Khanduja (2010). The model conceptualizes service quality as a gap between customer's expectations (E) and the perception of the service providers' performance (P). According to Parasuraman *et al.* (1985), "service quality should be measured by subtracting customer's perception scores from customer expectation scores (Q = P - E)". The greater the positive score mark means the greater the positive amount of service quality or the greater the negative score mark, the greater the negative amount of the service quality.

Parasuraman et al. (1985) as cited in (Zhao *et al.,* 2002) in their study of four different service industries identified 10 determinants of service quality, which included access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangibles and customer knowledge. Subsequently, Parasuraman et al. (1988) reduced these 10 determinants to five. Reliability, tangibles and responsiveness remained distinct, but the remaining seven components collapsed into two aggregate dimensions, assurance and empathy. Therefore, in the SERVQUAL scale, Parasuraman *et al.* (1988) identified five determinants of "tangibles", "reliability", "responsiveness", "assurance" and "empathy" as part of the 22-item SERVQUAL scale for measuring service quality. The instrument is administered twice in different forms, first to measure expectations and second to measure perceptions. The dimensions to be measured in this study are the five dimensions (Parasuraman *et al.,* 1988; Kotler & Keller, 2006) and two other added dimensions (Network quality and convenience). They are defined below as:

1. Reliability*:* –the ability to perform the promised service dependably and accurately. It is regarded as the most important determinant of perceptions of service quality.

2. Responsiveness: – the willingness to help customers and to provide prompts service. This dimension is particularly prevalent where customers have requests, questions, complaints and problems.

3. Assurance:- (including competence, courtesy, credibility and security), Knowledge and courtesy of employees and their ability to inspire trust and confidence.

4. Empathy:-(including access, communication, understanding the customer), Caring and individualized attention that the firm (service provider) provides to its customers.

5. Tangibles:-Physical facilities, equipment, appearance of personnel and communication materials.

6. Network quality*:-*the availability of the network, speed of the internet and consistency of the speed of the broadband internet service. (Negi, 2009; Wang & Lo, 2002).

7. Convenience*:-* the availability of offices near to customer, toll-free numbers ,websites, easy to get cards or to pay bills and so on (Lai *et al.,* 2007 & Negi, 2009)

Several related studies found that the SERVQUAL dimensions are the effective measures of service quality and customer satisfaction. Ahmed *et at.,* (2010) in their study Impact of Service Quality on Customers Satisfaction in telecom sector found that all the SERVEQUAL dimension have a significant relationship with the satisfaction of customers. In a Turkish study Yavas *et al*. (2004) confirmed that three dimensions of service quality: tangibles, responsiveness and empathy are significant predictors of customer satisfaction. A positive and significant association also existed between customers' satisfaction and reliability and (tangibles, responsiveness, empathy and assurance) dimensions of service quality (Eze, Sin, Ismail & Siang, 2008). Moreover, Joshi et al., (2010) in their study of Service Quality in Telecom Sector found that Network Quality is the best predictor of service quality in the telecom sector and is followed by responsiveness and others factors. Moreover, network quality had the most important positive impact on customer perceived Services quality.

2.4.1. Model of Service Quality Gaps

The Gaps Model of Service Quality defines service quality as the difference between customer expectations of service and perceived service or in terms of the gap between what the service should provide and the customer's perception of what the service actually provides. It assumes that the smaller the gap, the higher the quality of services. One of propose of the SERVQUAL instrument is to ascertain the level of service quality based on the five key dimensions and to

identify where gaps in service exist and to what extent. Generally according to Parasuraman, et al. (1988) along with the five SERVQUAL dimensions there are five gaps that occur due to the differences between expected and perceived service quality level. These can be summarized as follows:

➢ The difference between customers 'expectation and management's perceptions of those expectations, i.e. not knowing what consumers expect is called gap one. This gap is occurred as a result of the lack of a marketing research orientation, inadequate upward communication and too many layers of management. It is called positioning gap.

➢ The difference between management's perceptions of customer's expectations and service quality specifications; i.e. improper service-quality standards is called gap two. This gap is occurred as a result of inadequate commitment to service quality, a perception of unfeasibility, inadequate task standardization and an absence of goal setting. It is known as the specification gap.

➢ The difference between service quality specifications and service actually delivered i.e. the service performance gap or the delivery gap is called gap three. This may occurred because of personnel might be poorly trained, or incapable of or unwilling to meet the standard; or they may be held to conflicting standards, such as taking time to listen to customers and serving them fast.

➢ The difference between service delivery and the communications to customers about service delivery, i.e. whether promises match delivery is called gap four. It exists when the promises communicated by the business to the consumer do not match the consumers'expectation of those external promises. This is known as a communication gap. And,

➢ The difference between customer's expectation and perceived service. This gap depends on size and direction of the four gaps and other customer behaviors associated with the delivery of service quality on the marketer's side. This gap is considered to be the true measure of service quality. The Gap on which the SERVQUAL methodology has influence is Gap 5. Because gaps 1-4 are within the control of an organization and need to be analyzed to determine the cause or causes and changes to be implemented which

can reduce or even eliminate these four gaps emerge from an executive perspective on a service organization's design, marketing and delivery of service. Moreover, they contribute to another gap, mentioned earlier; Gap 5 Which is the discrepancy between customers 'expected services and the perceived service actually delivered. Gap 5 is a function of the other four gaps: that is, Gap 5 = f (gaps 1, 2, 3, and 4). Parasuramanet. al. (1985) seeks to measure gap 5 using the SERVQUAL instrument. The gap model is basically customer-oriented. Quality is realized by the customer after the service has been received and it relates to the difference between expected and perceived quality.

According to the Gaps Model of service quality, when what is delivered matches what is expected, customers find the service acceptable. If the service provided is better than what they expected that is when perception is better than expectation exceptional service materializes. Consequently, when expectations and perceptions are ranked on a scale, the gap is a number reflecting the difference between the two expectation rankings minus perception ranking. If there is a poor service gap, a minus number occurs. If the number, by chance, is zero, service is acceptable (expectations match perceptions). If a positive value emerges (perceptions exceed expectations), the service organization has achieved exceptional service.

2.5. Empirical Literature

✓ Zaim, Turkyilmaz, Tarim, Ucar and Akkas (2010) conducted a research on measuring customer satisfaction in Turk Telecom Company taking European Customer Satisfaction model as the reference and Turk Telekom customer satisfaction model. The study used structural equation modeling technique customer expectation, customer value, perceived quality, and image of the company, on the customer satisfaction. Their results revealed that customer satisfaction was significantly related to loyalty. In a similar vein, a strong and positive relationship has also been found between perceived qualities and perceived value. Image of the company, perceived value and perceived quality have positive and significant impact on customer satisfaction. Image of the company has the highest impact on customer satisfaction.

✓ By focusing on the importance of monitoring customer satisfaction Pizam and Ellis (1999) conducted a research on customer satisfaction and its application to the hospitality and tourism industries and they found that if properly designed, administered and

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analyzed, the process of monitoring customer satisfaction can be beneficial to any hospitality enterprises and make a difference between offering a mediocre product and an excellent, quality product.

✓ Laeheem (2012) also conducted a research on the determinants of customer satisfaction towards broadband services in Songkhla province using a randomly selected 100 respondents which focused business group. The researcher mentioned that factors influencing between internet service of all broadband service providers in Songkhla province in Thailand is quality, speed of internet and price are influential for the decision making process of the customers to select the broadband service providers. The results of the study found that the price and quality of broadband services providers have significant relevant to customers satisfaction whereas the stability, education, and monthly income have no relevance to the customers satisfaction in Songkhla province in Thailand.

✓ Between June 22 and August 14, 2011, Connect Minnesota conducted random digit dial telephone surveys of 1,200 adults across the state. Of the 1,200 respondents randomly contacted statewide, 202 were called on their cellular phones, and 998 were contacted via landline telephone. To ensure a representative sample, quotas were set by age, gender and country of residence (rural and non-rural), and the results were weighted to coincide with 2010 United States Census population figures.

✓ The findings of the survey show that Minnesotans that subscribe to home broadband service or use mobile internet are generally satisfied with the overall services. The aspect of service that is rated the highest among home and mobile internet is reliability of the service. Although, the monthly price paid for the service is least satisfied with aspect of service among home broadband subscribers and download speed is the least satisfied aspect among mobile internet users. Customer satisfaction is an important piece of ensuring the continued adoption and use of broadband service. Thus home broadband subscribers require attention to ensure sustainable adoption of the services.

✓ Chaudhuri and Flamm (2005) prepare a paper to be presented at The Future of Broadband: Wired & Wireless? Conference and found that the own-price elasticity of
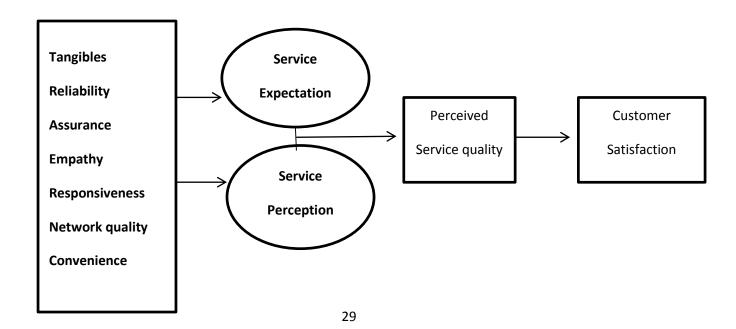
broadband demand is statistically significant but has a small coefficient value. The cross-price sensitivity of broadband demand with respect to dialup price is also statistically significant, and supports the notion of the two services being substitutes. These results have important policy implications for deepening broadband penetration: first, the small magnitudes of the impacts of own price suggest that untargeted price subsidies may not be a very effective tool. Second, while lower dialup prices (as have been observed in the market recently) increase Internet use, they diminish broadband demand. This study shows that broadband pricing will have an impact on the demand and being substitutable by the narrowband technologies.

✓ Recently Potluri and W/Hawariat (2010) conducted a research on assessment of after-sales service behaviors of Ethiopia Telecom customers. The research was conducted on telecom customers who are in Addis Ababa using self-administered questionnaires sent to a sample of 450 respondents. In addition to this, interviews were conducted with managers and selected employees to provide supporting data. The research found that lack of clarities of bills and delays in making decisions on complaints as some of the main reasons for their dissatisfactions. Other reasons include telephone interruptions during rainy seasons, old cables and networks, and damaged and stolen cables, which combined, increase the frequency of faults and interruptions. In general out of 450 respondents, nearly 40 percent of respondents have negative assessments of the role of employees in delivering good quality after-sales service. Since after sales support have significant influence on the overall customer satisfaction level, this study could benefit in identifying the satisfaction level of FBBI customers.

✓ In addition on the same year Potluri with Mangnale (2010) conducted a research on assessment of Ethiopian telecom customer satisfaction taking 400 customers as a sample. The researcher used structured questionnaire and in-depth personal interviews and customers were asked about their opinions on service interaction, service delivery process, customer complaint handling procedure, overall satisfaction levels and also customers' opinion on improvement on telecom service provider's ability in the last five years. The analysis showed that 41% customers of ETC were dissatisfied with employees' interaction skills. Furthermore another 47% of the customers were also

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disappointed with customer service delivery system and 70% customers were not pleased with the complaint handling procedure and its outcome. And 57% of the customers expressed overall dissatisfaction on the services provided by ETC. Furthermore 90% respondents robustly acknowledged ETC is improving tremendously in providing all kinds of services in the last five years. An overall assessment of satisfaction measures of customer satisfaction in all services. But the finding of this study can be an input for the study to be conducted on FBBI customers' satisfaction level

2.6. Conceptual frame work

The conceptual framework (see Figure 3.1 below), is developed by combined the works of different researches. To show the influence of the five SERVQUAL dimensions on customer satisfaction, a model was adopted from the works of Parasurman *et al,* (1994) and Turel and Serenko (2004). And, to show the effect of network quality and convience on customer satisfaction the works of Ilias and Panagiotis, (2010) and Dwivedi *et al*. (2007), were assessed, in which they found that network quality factors are the major predictors of both customer satisfaction and loyalty, and have significant positive effect on both concepts. Further, industry factors like convenience and speed might influence fixed broadband internet customers' satisfaction in Ethio Telecom. Therefore it is based on this research framework that the research method is designed to identify the influence of the seven SERVQUAL dimensions (as the independent variables) on broadband internet customer's satisfaction (as the dependent variable) of Ethio Telecom.

CHAPTER THREE
REASEARCH METHODOLOGIE

This chapter explains the research methodologies used and it covers, research design, source of data, population, sample and sampling method, research instrument, data collection procedure, method of data analysis.

INTRODUCTION

The aim of this study is to investigate the level of customer satisfaction with fixed broadband internet services and explore the relationship between customer satisfaction and service quality dimensions. The study has been conducted on fixed broadband internet users of Ethio Telecom; this includes corporate (key accounts) and small and medium enterprises. In order to investigate the objectives and answer the research questions, the research modes that this study followed were both descriptive and inferential statistics. And a questionnaire survey technique has been used to collect data from respondents and the questions were developed based on the SERVQUAL questionnaire developed by Parasuraman *et al* (five SERVQUAL dimensions) and for two additional dimensions (network quality and convenience) developed by researchers (discussed in chapter one and two).

3.1. Source of Data

This study has applied both secondary and primary data. The Primary data were collected from Ethio Telecom customers of fixed broadband through a self-administered questionnaire. As Bowling *et.al,* explains the questions were developed based on Likert scale questions to assess their level of satisfaction towards fixed broadband. Likert-type or frequency scales use fixed choice response formats and are designed to measure attitudes or opinions of respondents towards the given sentence which explains the factor/s (Bowling 1997, Burns & Grove 1997). With this data the researcher used to measure the effect of the seven (modified) SERVQUAL dimensions on the overall customers' satisfaction of ET's fixed broadband internet service users. These are the five SERVQUAL dimensions_ Tangibles, Responsiveness, Reliability, Assurance, & Empathy and the two additional/ modified measures are Network quality & convenience aspects.

On the other hand the secondary data were collected based on time series data from Ethio telecom data bases, and from related research journals and articles, unpublished materials of Ethio Telecom and web addresses/internet.

3.2. The Population of the Study

The general population of this study was the fixed broadband internet customers of Ethio telecom in Addis Ababa. Customers in Ethio telecom are segmented in to four categories based on the amount of revenue they generated and the nature of their business. These are the Key Accounts (KA), the Small and Micro Enterprises, Small Office Home Office (SOHO) enterprises and the non-business Residential customers. According to Ethio Telecom the Key Accounts (KA) and Small and Medium Enterprises (SOHO/SME) customers which aggregated more that 85% of the broadband service usage and revenue are served under the enterprise division of Ethio Telecom and the other two categories (Small Office Home Office (SOHO) enterprises and the non-business Residential customers) are served under the residential division of Ethio Telecom. So the study was focused only on the Key Accounts (KA) and Small and Medium Enterprises (SOHO/SME) in which both are treated under the enterprise division and are believed to good representatives and were targeted as the only population domains.

And as a data extracted from ET database on January 2018 shows the number of Fixed broadband internet subscribers in Addis has increased to 219000 subscribers, (Ethio telecom data base, January 2018).And according to Ethio Telecom from the total subscribers in Addis Ababa, 10068 subscribers are defined as key account customers and 9998 subscribers are categorized as SOHO/SME customers. Therefore the total population of this study was the sum of both KA and SOHO/SME customers, which was 20066 (10068+9998).

3.3. Sampling Method

Given all fixed broadband internet subscribers of Ethio telecom defined as Key Account (KA) and Small and Micro Enterprises (SOHO/SME) in Addis Ababa as population of this study, two sampling methods were used. First stratified sampling method has been used by dividing the population in to two subgroups (strata) based on the type of customer they are; as they are defined by Ethio Telecom as the Key Accounts (KA) and Small and Medium Enterprises (SOHO/SME) customers. Then a proportionate representative was selected from each stratum using a simple random sampling. Applying this simple random sampling is good due to the fact

that, as it explained by Flower and Rice, it possesses the recognized characteristics of a good sample frame such as comprehensiveness, accuracy, adequacy, and up-to-date and non-duplicated information (Fowler 2002, Rice 1997).

Based on this, the researcher will adopt a mathematical formula for the purpose of determining the sample size. Yamane (1967) cited in Meron (2007) has suggested the following mathematical formula for determining sample size.

$$n = \frac{N}{1 + N(e)^2}$$

Where, N is the total ET FBBI customers within Addis Ababa, and ―e‖ is the error or confidence level.

As Rumsey (2011) discussed confidence levels range from 80% to 99% and the particular choice of confidence level depends on the field of study. This research will use a confidence level of 93 percent to ensure an accurate result from the sample. Based on this, the error term would equal to 0.07. Using the total population of 55,000 and an error term of 0.07, the sample size is calculated as follows.

n=20066/1+20066(0.07)^2 = 202 which will be taken as a sample.

Hence, out of the total population of 20066 ET FBBI subscribers, a sample size of 202 will be taken.

3.4. Sample Size Determination

As indicated above, the company has 20066 fixed broadband internet customers in Addis Ababa. Out of this 10066 are Key Account customers and the rest 9998 were registered as the SOHO/SME customers. Based on this distribution the researcher chooses a stratified sampling method and the total sample size was 202(at a 97% confidence level), which is 6% of the total population. And based on their proportionate size; to draw a sample from each stratum, 110 of the samples were taken from the KA customers and the rest 92 of the samples were taken from the SOHO/SME categories.

3.5. Research Instrument

To collect the data from the respondents, this study followed the subsequent instruments. For each customers included in sample, questionnaire were distributed to gather information related to customer satisfaction level on fixed broadband internet. The questions were developed based on the following two categories: (1) multiple type questions examining the demographics of the respondents, and (2) A five-point Likert scale questions (ranging from 1 strongly disagrees to 5 strongly agree) to assess their level of satisfaction towards fixed broadband. The secondary data were collected from databases of Ethio telecom after getting licenses from the concerned authority and other published or unpublished sources.

As suggested by Parasurama *et al*., (1988: as cited in Tyran& Ross, 2006) it can be appropriate to modify the items of SERVQUAL instrument to make the survey more relevant to the context of a particular service environment. Therefore, the instrument was maintained service quality dimensions (tangibles, reliability, responsiveness, empathy, assurance) and it was include other two dimensions: network aspect and convenience.

The five dimensions of service quality used in the SERVQUAL Model for measurement of service quality which was developed by Parasuraman *et al*. (1988). The other two services related factors (network aspect and convenience) are adopted from different literatures which were used specifically for telecommunication industry. Negi (2009) in his study of user's perceived service quality of mobile communications in Ethiopia suggest that network aspect and convenience have significant impact on service quality and customer satisfaction. Lai *et al*. (2007) found that convenience as an additional dimension to the SERVQUAL model in mobile communications. Joshi *et al.,* (2010) in their study of service quality in telecom sector found that network quality is very important factor in determining service quality. Therefore, the researcher adopted these two dimensions (convenience and network quality) to the fixed broadband internet service because both mobile and internet are telecommunication services and they share the same backbone (network) at high level. Hence, this study was used a modified SERVQUAL dimensions.

Then the structured questionnaire was employed the typical form of fixed-response alternative questions that require the respondent to select from a predetermined set of answers to every question. The questionnaire were employed the Likert non-comparative scaling technique and it is a widely used rating scale which requires the respondents to indicate a degree of agreement or disagreement with each of a series of statements or questions. This rating scale is easy to construct and administer and respondents readily understand how to use the scale (Uebersax, John S.2006).

Respondents were asked to identify the quality of fixed broadband internet service expected from Ethio telecom and their perceived level of service with the actual fixed broad band internet service being delivered by ET. The items in the questionnaire were designed to be scored on a five point likert type scale, 1 (strongly disagree) and 5 (strongly agree), and highly dissatisfied (1) to highly satisfied (5) for the overall service quality and customer satisfaction. Respondents were asked to circle any of the numbers to show their level of agreement with each statement.

The questionnaire were also includes some questions about educational back ground of respondents, experience in the current position and the company, speed and bundle of fixed broadband internet services subscribed, and for how many computers do they share the subscribed fixed broadband internet services.

Table 1: Servqual dimensions

	SERVQUAL statements
	Tangibles
1	ET has up-to-date equipments to use for broadband internet service.
2	The physical facilities (such as office layout, furniture etc) visually appealing at the business centers of ET.
3	Employees (frontline, sales personnel and technicians) of the service provider are well dressed and appear neat.
4	Materials and equipments (such as modem, cooper, and fiber and customer premises equipment) will be in line with the type of services provide
	Reliability
5	The behavior of employees creates confidence in customers.
6	ET Employees will have the knowledge to answer customers'questions.
7	ET employees do understand the specific needs of their customers.
8	Service provider does keep its records accurately.
	Responsiveness
9	Employees who involve in the delivery of the service (such as Front line, customer care, sales persons and technicians) will give prompt service to customers.
10	Employees who involve in delivery of the broadband internet service will always be willing to help customers
11	Service provider will have operating hours convenient to all its customers.
12	Employees of the service provider will never be too busy to respond to customers 'request promptly.

	Assurance
`13	The broadband internet service is provided at the promised time.
14	Employees of ET do tell customers exactly when the requested broadband service be performed.
15	When employees of the service provider promise to do something by a certain time, they will do so.
16	Customers will feel assured that service requests are duly (properly) followed up.
	Empathy
17	Employees of service provider will give customer individual attention.
18	ET Employees will be consistently nice or courteous with customers.
19	When a customer faces a problem, employees of service provider do show a sincere interest in solving it.
20	Overall Employees of service provider do have their customer's best interests at heart.
	Network quality
21	Service provider provides network of 24hours a day and 7days a week without break.
22	Service provider's fixed broadband internet speed is high.
23	Service provider has consistent speed of fixed broadband internet service without major interruptions.
	Convenience
24	Service provider will have sufficient offices in different geographic areas.
25	There will not be significant delay over maintenance of broadband connection.
26	Service provider will have convenient toll-free numbers and websites for customers for clarification of problems and to know account status.

3.6. Validity /Reliability test

According to (Kothari, 2004), sound measurement must meet the tests of validity and reliability. Validity refers to the extent to which a test measures what we actually wish to measure. Reliability has to do with the accuracy and precision of a measurement procedure Practicality is concerned with wide range of factors of economy, convenience, and interpretability. To test reliability the Chronbach coefficient alpha was calculated for each field of the questionnaire. It is expressed as a number between 0 and 1. Value of 0.6 or less generally indicates unsatisfactory internal consistency reliability. In order to ensure the content of validity the study employed the Chronbach coefficient alpha

Table.2. Chronbach's Alpha for perceived service quality

Variables	Number of items	Cronbach's alpha result
Tangible	4	0.806
Reliablity	4	0.846
Responsiveness	4	0.864
Assurance	4	0.888
Empathy	4	0.876
Network Quality	3	0.901
Convenience	3	0.957

Source: Own, computed from survey data, 2018

The above Table 4.2 shows that the values of Chronbach's Alpha for each varariables of the questionnaire. For the fields, values of Chronbach's Alpha were above 0.6. This value indicates that ensures the reliability of each field of the questionnaire. Therefore, it can be said that it is proved that the questionnaire is valid and reliable the questionnaire of this study.

Table.3. Chronbach's Alpha for perceived service quality

Variables	Number of items	Cronbach's alpha result
Tangible	4	0.806
Reliablity	4	0.826
Responsiveness	4	0.876
Assurance	4	0.888
Empathy	4	0.842
Network Quality	3	0.898
Convenience	3	0.957

Source: Own, computed from survey data, 2018

As shown in above table the Cronbach's alpha coefficients for perception service quality items ranges from 0.806 to 0.857, which are greater than the minimum value. The scale of service convenience and network aspect demonstrates a Cronbach coefficient of 0.957 and 0.898 respectively. The overall Cronbach alpha coefficient for perceived scale items is 0.827. Therefore, the scales used in this study demonstrate high reliability.

3.7. Research Participants

The research participants of this study were IT heads or network administrators' of each organization or enterprise but if the organization or the enterprise has no IT heads or network administrators the questionnaire was distributed to the management members or end users. The questionnaires were distributed to the person who is responsible for the fixed broadband internet services of the organization. The IT heads or network administrators of the enterprise customer were selected as participants, because Network administrators or IT heads are responsible for the

maintenance and administration of the enterprise broadband internet services and they are also registered as the contact persons for the Ethio telecom services. Therefore, the researcher believes that they could represent the satisfaction level of their organization/company fixed broadband internet services.

3.8. Data Collection Procedure

The list of the key account and SOHO/SME contact persons, mobile number and address with respect to their company was taken from Ethio telecom Enterprise division, Tele marketing section. Based on this list, the researcher calls or visits the selected participants, then asks the customer whether they use fixed broadband internet service from Ethio telecom or not. Then when they are the fixed broadband internet subscribers then questionnaire were administered otherwise the randomly selected respondents have been changed by other fixed broadband internet users. In addition, before distributing the questionnaire the researcher asks the customers that who is responsible for their company fixed broadband internet services. Then the questionnaire was filled by the responsible persons and in most of the customers IT heads and or Network administrators are the persons responsible for the company fixed broadband internet service and most of the questionnaire were filled by them. In some of the organizations there are no IT heads and Network administrators, therefore questionnaire were filled by management members, general facilities and or staffs or end users.

The survey questionnaires were self-administered by visiting the offices of the customers in Addis Ababa. The researcher has been telling the respondents on how the overall questionnaire should be filled and the difference between the expectation and perception questions. Then, respondents were asked to identify the quality of fixed broadband internet service expected from Ethio telecom and their perceived level of service with the actual fixed broadband internet service being delivered by ET.

Moreover, the researcher told the respondents the time of delivering the response at their earliest convenience; here the time was one week. A week later the researchers will check for response and start collecting the questionnaire as per the stated time by going to the offices of the respondents. From the total 202 questionnaire distributed to subscribers 165 filled questionnaires were collected, which represented 84.66% response rate, and has been used in the data analysis

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

This chapter contains the, respondents' characteristics, overall service quality analysis, overall customer satisfaction analysis, the influence of service quality dimensions on customer satisfaction and expectations, perceptions and gap scores analysis.

4.1 Respondents Characteristics

A total of 202 questionnaires were administered and data were collected from Ethio Telecom key account and SOHO/SME fixed broadband customers in Addis Ababa. Among these only 165 distributed questionnaires have been collected and analyzed using the descriptive statistics (frequency statistics) and inferential statistics. And the frequency and the percentage of the characteristics of respondents are summarized in the table below.

Table 4. Respondents characteristics

Variables		Frequency	Percent
Sex	Male	110	66.7
	Female	55	33.3
Educational Background	Certificate	5	3
	Diploma	23	14
	1st Degree	82	49.7
	2nd Degree and above	55	33.3
Occupation	Government Employee	66	40
	NGO Employed	10	6
	Self Employed&/ PLCs	50	30.3
	Service company	39	23.7
Postion	IT head manegement	73	44.2
	Network Administrator	64	38.7
	Staff/End user	28	16.9
Work experience	1 to 3 years	12	7.2
	4 to 6 years	33	20
	6 to 8 years	41	24.8
	8 to 10 years	52	31.5
	above 10 years	27	16.5
Amount of bandwidth subscribe	< 3Mbps	76	46
	3Mbps to 10Mbps	56	34
	10Mbps to 50Mbps	30	18
	> 50Mbps	3	2
Number of computers shared the subscribed FBBI	< 5 Computers	3	2
	6 to 10 computers	13	7.8
	11 to 15 computers	23	14
	16 to 20 Computers	38	23.2
	> 20 Computers	88	54
Customer category	Key account	90	55
	SOHO/SME	75	45

Source: Own, computed from survey data, 2018

As shown in Table Respondents characteristics, the respondents have diverse characteristics. Among the 165 respondent's 66.7% (110) respondents male and the rest 33.3% (55) were female respondents. The educational background of the respondents is classified in to four categories. These are: certificate, diplomas, 1st degree and 2nd degree and above. Most (49.7%) of the respondents have 1st degree, followed by 33.3% 2nd degree and above and the least was registered with diploma (14%) and certificate (3%). Collectively most (83%) of the respondents have 1st degree and above.

Further, among the 165 respondents 44.2% (73) respondents are IT heads, 38.7% (64) respondents are Network Administrators, and the rest which is End user\Staff member respondents were 16% Because it was assumed that the IT heads or network administrators of the enterprise customers (both the key accounts and SOHO/SME) represent their organization or Enterprise satisfaction level, it was planned to collect the data from them. However, some of the enterprise customers do not have IT heads or network administrators; therefore, the data was collected from Management members, staffs and others (like General facility, contact persons registered in Ethio telecom key account section). Most of the data was collected from IT heads and Network administrators' respondents, which is collectively 82.2%(132) of the total. The 72% (120) of the respondents have 6 years and above work experience in their current position. This shows that the data were collected from experienced respondents in using and/or facilitating fixed broadband internet service in each of the enterprise customers. As discussed above (chapter three) in ET enterprise division customers are categorized as KA & SOHO/SME and a proportionate sample were taken, distributed and collected from each of these categories. As a result 55% (90) of the respondents were from KA and the rest 45% (75) are SOHO/SME respondents and as one can see from the table above customers were asked for how many computers do they share the subscribed speed of fixed broadband internet. As a result 2% (3) share the speed for less than 5 Computers, 7.5% (13) 6 to 10 Computers; 14% (23) 11 to 15 computers; 23% (38) share for 16 to 20 Computers and 54% (88) share the fixed broadband internet speed for 20 and above computers. with regard to the amount of bandwidth subscribed from ET most of customers and it is founded that majority of the subscribers' i.e. 80% (n=132) subscribe FBBI with a speed of 10Mbps or less. So by determining which factors affect those subscribers to subscribe lesser bandwidth will help the company to focus on those variables in order to take corrective action.

4.2 Overall Service Quality Analysis

As discussed in chapter two service quality the most important factor to assess customer satisfaction. To analyze the service quality of broadband internet service of Ethio telecom descriptive frequency statistics was applied. Service quality was classified in five point scale, range from the lower: very poor to the higher: very good. Based on the analysis result, table 4.4 presents the quality of broadband internet service

Table 5. Overall quality of broadband internet service

	Frequency	Percent	Valid Percent	Cumulative Percent
very poor	48	29.1	29.1	29.1
poor	70	42.4	42.4	71.5
neutral	30	18.2	18.2	89.7
good	17	10.3	10.3	100.0
Total	165	100.0	100.0	

Source: Own, computed from survey data, 2018

As shown in above table 4.4: 29.1% (48) respondents said the fixed broadband internet of Ethio telecom is very poor, 42.4% (70) respondents said poor, 18.2% (30) respondents said moderate (neutral), 10.3% (17) respondents said good and none of the respondents said ET's fixed broadband internet service provisioning is very good. Therefore, according to the finding a total of 71.3% of respondents said there is poor broadband internet service of Ethio telecom, 18.2% said moderate and only 10.3% said good service quality.

4.3. Overall Customer Satisfaction Analysis

The dependent variable (customer satisfaction) was analyzed with the descriptive statistics (frequency distribution). The customer satisfaction level was classified in five point's scale that ranges from the lower: Highly dissatisfied (1) to the higher: Highly satisfied (5). Table 4.4 presents the result of the analyzed overall customer satisfaction.

Table 6. Overall customer satisfaction

	Frequency	Percent	Valid Percent	Cumulative Percent
Highly dissatisfied	54	32.7	32.7	32.7
Dissatisfied	73	44.2	44.2	77.0
neutral	20	12.1	12.1	89.1
Satisfied	18	10.9	10.9	100.0
Total	165	100.0	100.0	

Source: Own, computed from survey data, 2018

As shown in the above table the frequency of the overall Fixed broadband internet service satisfaction of the respondents shows that 32.7% (54) respondents are highly dissatisfied, 44.2% (73) respondents are dissatisfied, 12.1% (20) has a moderate satisfaction, 10.9% (18) respondents are satisfied, and none of the respondents are highly satisfied. Based on the above result the cumulative of 76.9% respondents are either highly dissatisfied or dissatisfied with the broadband internet services provisioning of Ethio telecom. And 12.1% respondents have moderate satisfaction and only 10.9% respondents are satisfied with the broadband internet services. Based on the expectancy disconfirmation theory discussed in chapter two, if the expectation matches perception the customer said to be satisfied therefore, the customers who have moderate satisfaction are considers as satisfied customers. Hence, 23% enterprise customers are satisfied

with the broadband internet services of Ethio telecom. This result supports the previous studies conducted in Ethiopian Telecom customer satisfaction reported that about 57% of the customers are dissatisfied with the overall performance of the Ethio telecom services (Potluri & Mangnale, 2010).

The Influence of Service quality dimensions on Customer Satisfaction

To investigate the relationship between fixed broadband internet service quality dimensions and customer satisfaction, multiple linear regression models was applied. According to the SPSS package, the multiple linear regression is used to model the value of a dependent scale variable based on its linear relationship to one or more predictors. The total satisfaction is an aggregation of tangibles, reliability, responsiveness, assurance, empathy, network aspect and convenience.

Table 4.5: presents the multiple linear regression analysis between the SERVQUAL dimensions and overall satisfaction. The value of "R2" indicates that the proportion of the variation in the dependent variable explained by the regression

Table 7. Influence of SERVQUAL dimensions on Overall customer satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R square	Overall significance	Level of confidence
	B	Std. Error	Beta					
1 (Constant)	.317	.652		.486	.628	0.402	.000	95%
Overall Tangible	.039	.027	.098	1.443	.151			
Overall Networkquality	.123	.035	.351	3.502	.000			
Overall Convenience	.078	.030	.248	-2.593	.001			
Overall Reliablity	.052	.023	.112	2.229	.001			
Overall Responsiveness	.024	.022	.020	-1.109	.269			
Overall Empathy	.005	.022	.120	.223	.001			
Overall Assurance	.056	.023	.224	2.460	.000			

Source: Own, computed from survey data, 2018

The results in the above table 4.6 indicate that about 40.2% (R2=0.402) of the variance in the overall satisfaction is explained by the SERVQUAL dimensions. In addition, the results demonstrate that there is positive and statistically significant ($p<0.01$, $\alpha =.05$) relationship between the SERVQUAL dimensions and overall customer satisfaction. Therefore, the seven

SERVQAL dimensions (tangibles, reliability, responsiveness, assurance, empathy, network aspect and price factors) collectively are significant to fixed broadband internet service customer satisfaction. However, as shown in the above table, the SERVQUAL dimensions separately have different significant levels. That is:

➢ There is a positive and statistically significant ($p < 0.01$, $\beta = 0.351$) relationship between network quality and overall customer satisfaction Moreover, among the seven service quality dimensions, network quality is the strongest predictor of overall satisfaction. This finding supports the study of Joshi et al., (2010); Negi (2009) and Wang & Lo (2002) that network quality is the best predictor of service quality in the telecom sector. The implication of this result, the availability of 7 days and 24 hours network connection without break, high and consistence speed of broadband internet service of Ethio telecom have a significant and positive influence on customer satisfaction.

➢ The multiple regression result in table 4.5 also demonstrates that there is positive and statistically significant ($p < 0.01$, $\beta = 0.248$) relationship between convenience and overall customer satisfaction. And convenience is the second most predictor of overall customer satisfaction next to network quality. The interpretation of this finding is that the Service provider will have sufficient offices in different geographic areas. There will not be significant delay over maintenance of broadband connection.Service provider will have convenient toll-free numbers and websites for customers for clarification of problems and to know account status

➢ The above table also shows that there is also positive and statistically significant ($p < 0.01$, $\beta = 0.224$) relationship between assurance and overall customer satisfaction. And next to network aspect and convenience, assurance is the third most predictor of overall customer satisfaction among the entire service quality dimensions used in this study. The result indicates that, the attributes of assurance like ET employees do tell customers exactly when the requested broadband service be performed; when ET employees promise to do something by a certain time, they will do so; ET employees do have the knowledge to answer customers' questions and customers will feel assured that service requests are duly (properly) followed up have positive and significance effect on customer satisfaction.

➢ Further there is also a positive and significance relationship b/n overall customer satisfaction of broadband internet service and Empathy (at $p < 0.05$, $\beta = 0.120$) and Reliability (at $p < 0.05$, $\beta = 0.112$). And this means the attributes of Empathy (ET Employees will be consistently nice or courteous with customers, will give customer individual attention; further when a customer faces a problem, employees of service provider do show a sincere interest in solving it; and overall Employees of service provider do have their customer's best interests at heart) and Reliability (The behavior of ET employees creates confidence in customers; the broadband internet service is provided at the promised time; ET employees do understand the specific needs of their customers; and ET does keep its records accurately) have a positive significance influence on fixed broadband internet customers' satisfaction of ET.

➢ On the other hand, among the seven fixed broadband internet service quality dimensions the other two dimensions (Responsiveness & Tangibles) also have a positive (at r value 0.020 & 0.98 respectively) but statistically insignificance relationship with overall customer satisfaction (for p value is > 0.05). This means that compare to the other factors, tangibles and responsiveness have no significant effect on fixed broadband internet service satisfaction, in ethio telecom. This shows tangibles like having up-to-date equipment's and materials, having visual appealed physical facilities, well dressed and neat employees may not have significant effect on fixed broadband internet service customer satisfaction like the services in hotels, banks and hospitals. Moreover, the implication of this finding is that responsiveness items such as ET have operating hours convenient to its customers; employees who involve in the delivery of the service (such as Front line and sales persons) will give prompt service, will never be too busy to respond to customers' request promptly and are willing to help to customers have not significant effect on customer satisfaction of broadband internet service of ET. This result is expected because telecom services, specifically fixed broadband internet services doesn't need a continuous involvement of employees' throughout the delivery of the service. Therefore, tangible and responsiveness may not be significant to customers' satisfaction.

4.4 The effect of overall service quality on customer satisfaction

To analyze the relationship between overall service quality and customer satisfaction simple linear regression was applied. The following table shows the effect of overall service quality of broadband internet service on customer satisfaction

Table 8. The effect of overall service quality on customer satisfaction

Coefficients[a]						
Model	standardized Coefficients		t	Sig.	R Square	Level of
	B	Std. Error				
1 (Constant)	.012	.057	.203	.839	0.901	95% confidence
overall quality	.954	.025	38.435	.000		

a. Predictors: (Constant), Overall quality of broadband internet service

b. Dependent Variable: Overall Customers Satisfaction

Table above shows the result of simple liner regression and it indicates that about 90.1% (R^2=0.901) of the variance in the overall satisfaction is explained by overall quality of fixed broadband internet service. There is also positive and statistically significant ($p< 0.01$, $\beta= 0.954$) relationship between overall service quality and customer satisfaction. This result shows that overall service quality has a positive significant effect on customer satisfaction. The interpretation of this finding is that service quality of fixed broadband internet services of Ethio telecom is significant to the assessment of the customer satisfaction. Therefore, enterprise customers' satisfaction towards fixed broadband internet service of Ethio telecom will increase when the overall quality of the service increases. Furthermore, this finding answers the research question.

Expectations, Perceptions and Gap Scores Analysis

According to the concept of the Gaps Model of service quality discussed in chapter two, when what is delivered matches what is expected, customers find the service acceptable. If the service provided is better than what they expected that is when perception is better than expectation exceptional service materializes. Consequently, when expectations and perceptions are ranked on a scale, the gap is a number reflecting the difference between the two expectation rankings minus perception ranking. If there is a poor service gap, a minus number occurs. If the number is zero, service is acceptable (expectations match perceptions). If a positive value emerges (perceptions exceed expectations), the service organization has achieved exceptional service (Disend, 1991 as cited in Mussie, 2011)

Moreover, according to expectancy disconfirmation theory that has been discussed in chapter two, the higher the perception minus expectation scores, the higher is the level of perceived service quality (Positive disconfirmation). The (P-E) frame work suggests the highest service quality score for an attribute occurs when expectation score is 1 and perception score is 5, giving a score of 4 (5-1). Therefore, levels of quality increase as scores move from -4 to 4 (Jannadi and Al-saggaf, 2000). Hence, the issue of the research is based on the assessment of service quality and customer satisfaction using the expected disconfirmation theory (ED). And, the average value of each attribute of the SERVQUAL dimensions used in the study was computed by taking each scale/response of a respondent in to the SPSS software and calculating the mean value. As a result the following table (table 4.7) presents the mean value of each attribute and its corresponding Perception and Expectation gap scores, which in turn is calculated by the difference of average Perception and average Expectations (P-E).

Table 9. Service Quality Gap

SERVQUAL Dimension	Mean (Expectations)	Mean (Perceptions)	Service Quality Gap
T1	4.24	3.18	-1.03
T2	3.50	3.23	-0.27
T3	4.30	3.23	-1.07
T4	4.63	3.20	-1.43
Tangibles	4.17	3.21	-0.96
R1	4.70	3.02	-1.68
R2	4.70	3.01	-1.69
R3	4.13	3.01	-1.12
R4	4.50	2.96	-1.54
Reliablity	4.51	3.00	-1.51
Rs1	4.78	2.80	-1.98
Rs2	3.92	2.80	-1.12
Rs3	4.78	2.81	-1.97
Rs4	4.49	2.86	-1.63
Responsiveness	4.09	3.41	-0.68
A1	4.70	3.23	-1.47
A2	4.50	2.12	-1.27
A3	4.29	2.46	-1.06
A4	4.29	3.23	-1.06
Assurance	4.45	2.61	-1.68
E1	4.29	3.03	-1.26
E2	4.29	2.94	-1.35
E3	4.70	2.96	-1.74
E4	4.13	2.88	-1.25
Empathy	4.35	2.95	1.40
N1	4.05	2.01	-2.04
N2	4.27	2.03	-2.24
N3	4.27	1.99	-2.28
Network Aspect	4.60	2.51	-2.19
C1	4.41	2.92	-1.49
C2	4.70	2.92	-1.78
C3	4.63	2.92	-1.71
Convenience	4.61	2.92	-1.66

Source: Own, computed from survey data, 2018

As shown in the above table 4.7 the range for expectation was from 4.09 to 4.58 on a five- point Likert scale. This means that fixed broadband internet customers' expectation on fixed broadband internet service quality on average is bigger (that is 4.58). Respondents reported with

the greatest mean expectation of conveinience (4.58) followed by network quality (4.52), reliablity (4.51), responsiveness (4.49), assurance (4.45), empathy (4.49) and tangible (4.42) respectively. Among the attributes that customers expecting high were C24 and C 25 which says Service provider will have sufficient offices in different geographic areas and There will not be significant delay over maintenance of broadband connection. than on the tangibles attributes T2 and T3 which says the physical facilities (such as office layout, furniture etc) visually appealing at the business centers of ET and employees (frontline, sales personnel and technicians) of the service provider are well dressed and appear neat respectively. And the range for perceptions was from 2.01 to 3.23, respectively, for network quality and responsiveness. It was observed from the study that ET performed best among the Responsiveness attributes on Rs9 (3.23) and Rs10 (3.22), which says: Employees who involve in the delivery of the service (such as Front line, customer care, sales persons and technicians) will give prompt service to customers and Employees who involve in delivery of the broadband internet service will always be willing to help customers, In contrast, ET has the worst performance in the dimension of network aspects of N21 (2.01) and N23 (1.99); which says: Service provider's broadband internet speed is high and Service provider has consistent speed of broadband internet service without major interruptions. As suggested by Parasuraman et al. (1994) the gap analysis is accurate in identifying service short falls in an operation. This will help ET to identify which dimension need an improvement and which one is in a good position and need to maintain or keep up. And for the Gap analysis, the study indicated that there is no service quality gap which shows positive and this means there is no dimension in which all customers or most customers whose perceptions are equal to or greater than expectation. The larger mean gap was identified for the dimensions of network quality aspect (-2.19) followed by convenience (-1.66) and assurance (-1.68). The smallest mean gap was identified for the dimension of Responsiveness (-0.68) followed by Tangible (-0.96). Therefore, the higher service quality gap in fixed broadband internet service quality dimensions were found in network quality dimension i.e. (-2.19).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATION

This chapter contains the Summary of findings, conclusions and recommendations of the study, and limitation and implications for further research.

5.1. SUMMERY

The objective of this study is to assess the service quality and customer satisfaction of fixed broadband internet service of Ethio telecom in Addis Ababa.

The overall satisfaction level of enterprise customers was measured using a point Likert scale range from highly dissatisfied (1) to highly satisfied (5). Total of 73% respondents are dissatisfied and 27% are satisfied. The influence of service quality dimensions on customer satisfaction was measured using linear regression model. The results shows that there is positive and statistically significant (p<0.01) relationship between the overall SERVQUAL dimensions and overall customer satisfaction. The finding also shows that there is a positive and significant relationship between five dimensions (network quality, reliability, convenience, assurance and empathy) and customer satisfaction. The network quality is most predictor of service quality followed by convenience and assurance. The result also demonstrates that there is not significant relationship between the other two dimensions (tangibles and responsiveness) and customer satisfaction. The result of simple liner regression indicates that there is also positive and statistically significant relationship between overall service quality and customer satisfaction. This result shows that overall service quality has a positive significant impact on customer satisfaction. The quality gap of the dimensions which is calculated by the difference between perception and expectation (P-E) has demonstrated a negative value for all dimensions. The highest negative margin of the gap is shown under the dimension of network quality. The study indicates the ET has not high and consistent speed of broadband internet service without break all the time. The relative best performance of the ET has found in the responsiveness dimension of service quality. And the relative low performance of ET has indicated in the network quality dimension of service quality

5.2. CONCLUSION

The aim of this research was to assess the main factors that affect the customer satisfaction towards fixed broadband services subscribers of Ethio Telecom in Addis Ababa. In assessing the effect of service quality factors on fixed broadband internet customers'satisfaction of ethio telecom through the framework of modified SERVQUAL model the researcher had conducted questionnaire survey on enterprise customers in Addis Ababa. Altogether the responses out of the distributed questionnaire (202) were 165 respondents in Addis Ababa have been analyzed in this study. Accordingly 73% of the enterprise fixed broadband internet service customers are dissatisfied with the broadband internet services of Ethio telecom, 27% customers are satisfied in which their perceptions equal or greater than their expectations.

The finding demonstrated that there is positive significant relationship between the combinations of fixed broadband internet services modified SERVQUAL dimensions and customer satisfaction. This means that the overall service quality dimensions have significant effect on customer satisfaction.

Among the seven SERVQUAL dimensions network quality aspects, convenience, assurance, reliability and empathy have significant and positive influence. On the other hand, the result also demonstrates that two dimensions (tangibles and responsiveness) do not have significant influence/ effect on customer satisfaction in the case of fixed broadband internet users of ET.

And for the case of gap analysis; though the performance or average perception for the SERVQUAL dimensions is above average; the overall customers'perception is still less than the overall correspondent levels of expectation. The service quality gap is derived from perception minus expectation. As a result there is no dimension, used in this study to assess the expected service quality and the actual perceived performance of ET broadband service provisioning, with positive gap value. This means that overall ET's fixed broadband internet service provisioning do not meet its customers'expected service quality levels. And as a result of the service quality gap analysis of ET, the gap varies from lower among the responsiveness attributes to higher among the network quality attributes.

To conclude, according to the findings of the study, the network quality aspects are the major predictors of all the other broadband internet services attributes in case of Ethio Telecom. This finding confirms the previous researches done by other researches that the network quality aspect strongly affects broadband internet customers' satisfaction.

5.3. Recommendations

Based on the above conclusions, the following recommendations can be forwarded:

✓ Ethio telecom should work hard to improve the broadband internet customers' satisfaction, since the overall customer dissatisfaction level is as high as 63.4%

✓ The quality gaps of the service dimensions are negative. The gap varies from -0.68 (Responsiveness) to -2.19 (network quality). ET should improve specially the wider gaps in network quality (-2.19), Convenience (-1.66) and Assurance (-1.22) and Empathy (1.4), since these factors are also the main factors that influence the customers' satisfaction level negatively and significantly if not improved.

✓ Network quality is also the most predictor of service quality and customer satisfaction Therefore, ET should improve its network areas of providing 24 hours and 7 days available network without break, high and consistence speed, because it is the network quality in which customers are complaining.

✓ Convenience is also the other dimension having significant impact on customer satisfaction, therefore, to improve its customer satisfaction ET should work on the convenience items like: Having sufficient office or sales centers for the customers because currently ET has only one business center for all key account customers in Addis Ababa. Whereas ET should also improve the convenience of the toll-free numbers and websites for customers for clarification of problems and to know account status and ET should also simplify or modernize its bill payment systems and scratch cards distribution systems.

✓ Assurance is the third dimension having significant effect on customer satisfaction. ET should improve the assurance of its fixed broadband internet service provisioning; this is related with how ET's performance in creating assurance for customers by showing whether their requests are duly followed up. This can be done by improving the knowledge, motivation and commitment of its employees, especially those who involve

directly or indirectly in the provisioning of fixed broadband internet; where by providing different training or incentive schemes. Furthermore, from my own experience the one constraint that hinders front line employees to keep their promise to provide a service is that the work and process in the back office. Therefore, ET should improve the integration and coordination between the works of the front line employees and work in back office.

✓ Regarding to the Reliability and empathy dimensions, since these two factors have also significant effect on determination of customer satisfaction, ET has to give a due attention on improving the issues that affect them. This can be done by improving customer handling mechanism, resources management related to recording and documentation systems.

✓ Responsiveness followed by Tangibles dimension have a relatively small quality gaps but still below expectation.

- To meet or exceed the customer tangibles dimension expectation, ET should use up-to-date materials and equipment's used for delivery of the fixed broadband internet service.

- To meet the customers' expectation of responsiveness, ET should develop clear process of the service delivery and train its employees on customer care, since it is related to the behaviors of employees who involve in the delivery of the service (such as Front line, customer care, sales persons and technicians) has to give prompt service and be always willing to help customers.

Limitations and Implications for further research

This study assessment focused on the factors that affect the satisfaction level of enterprise (key account and SOHO/SME) customers of Ethio Telecom broadband internet service in Addis Ababa. Means the study is limited to key account and SOHO/SME customers in Addis Ababa and not all fixed broadband internet user of Ethio telecom has participated in this study. Moreover, time and resources constraint are another limitation that the researcher faced in this study. Hence, it is difficult to say all the enterprise customers of ET are satisfied or dissatisfied based on this study because this study does not include all the customers of Ethio telecom and all types of service provide by Ethio telecom. So, with respect to future projects, since this study focused only on some of the enterprise customers; a further study with different scopes can be done by targeting other Enterprise customers, such as the residential or individual customers and those fixed broadband internet users who are in regions.

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Appendix I: Reliability Test

Item-Total Statistics				
Description	Scale Mean	Scale Variance	Corrected Item-Total Correlation	**Cronbach's Alpha if Item Deleted**
Average Expectations on Assurance	87.8	95.853	0.261	0.848
Average Perceptions on Assurance	89.7	90.958	0.496	0.841
Average Expectations on Empathy	88	99.158	0.071	0.853
Average Perceptions on Empathy	89.25	85.882	0.761	0.832
Average Expectations on Network Quality Aspects	87.45	98.997	0.054	0.853
Average Perceptions on Network Quality Aspects	90	86.421	0.732	0.833
Average Expectations on Price factors	87.6	96.884	0.166	0.85

Appendix II: Correlation (Pearson: Two-Taild)

		Overall Tangible	Overall Networkquality	Overall Convenience	Overall Reliablity	Overall Responsiveness	Overall Empathy	Overall Assurance
Overall Tangible	Pearson Correlation	1	.260**	.096	-.329**	-.488**	-.484**	-.060
	Sig. (2-tailed)		.001	.001	.000	.000	.000	.001
	N	165	165	165	165	165	165	165
Overall Networkquality	Pearson Correlation	.260**	1	.555**	.391**	.032	.070	.297**
	Sig. (2-tailed)	.001		.000	.000	.685	.370	.000
	N	165	165	165	165	165	165	165
Overall Convenience	Pearson Correlation	.096	.555**	1	.200**	.122	.065	.509**
	Sig. (2-tailed)	.221	.000		.010	.119	.403	.000
	N	165	165	165	165	165	165	165
Overall Reliablity	Pearson Correlation	.329**	.391**	.200**	1	.459**	.367**	.233**
	Sig. (2-tailed)	.000	.000	.010		.000	.000	.003
	N	165	165	165	165	165	165	165

Overall Responsiveness	Pearson Correlation	.488**	-.032	.122	.459**	1	.238**	.252**
	Sig. (2-tailed)	.000	.685	.119	.000		.002	.001
	N	165	165	165	165	165	165	165
Overall Empathy	Pearson Correlation	.484**	.070	.065	.367**	.238**	1	-.198*
	Sig. (2-tailed)	.000	.370	.403	.000	.002		.011
	N	165	165	165	165	165	165	165
Overall Assurance	Pearson Correlation	.060	.297**	.509**	.233**	.252**	-.198*	1
	Sig. (2-tailed)	.443	.000	.000	.003	.001	.011	
	N	165	165	165	165	165	165	165

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix II: Regression Assumptions and Analysis Results

Multicolliniarity

Coefficients[a]

Model	Collinearity Statistics	
	Tolerance	VIF
1 Overall Tangible	.498	2.007
Overall Networkquality	.477	2.094
Overall Convenience	.524	1.907
Overall Reliablity	.529	1.890
Overall Responsiveness	.615	1.625
Overall Empathy	.577	1.734
Overall Assurance	.576	1.735

a. Dependent Variable: overall customer satisfaction

Multicollinearity exists when Tolerance is below .10 and VIF is greater than 2.5. In this case, all of the tolerance values are greater than .10 and the VIF is less than 2.5. Thus, it is possible to assume multicollinearity is not a problem. In addition, multiple regressions also assume the range of variance for the dependent variable is uniform for all values of the independent variables. Hence, the researcher proceeds with the analysis assuming linearity and homoscedasticity are not a problem.

3) Regression Model

Variables Entered/Removed[a]

odel	Variables Entered	Variables Removed	Method
1	Overall Assurance, Overall Tangible, Overall Reliablity, Overall Convenience, Overall Responsiveness, Overall Empathy, Overall Networkquality[b]		Enter

a. Dependent Variable: overall customer satisfaction

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. Ch
1	.702ᵃ	.492	.470	.68705	.492	21.749	7	157	.00

a. Predictors: (Constant),

Tangible,OverallReliablity,OverallResponsiveness,OverallAssurance,OverallEmpathy,OverallNetworkquality,O

Convenience

ANOVAᵃ

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	36.158	7	5.165	7.385	.000ᵇ
Residual	109.817	157	.699		
Total	145.976	164			

a. Dependent Variable: overall customer satisfaction

b. Predictors: (Constant), Overall Assurance, Overall Tangible, Overall Reliablity, Overall Convenience, Overall Responsiveness, Overall Empathy, Overall Networkquality

Coefficientsᵃ

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.317	.652		.486	.628
Overall Tangible	.039	.027	.098	1.443	.151
Overall	.123	.035	.351	3.502	.000

Networkquality					
Overall Convenience	-.078	.030	.248	-2.593	.001
Overall Reliablity	.052	.023	.112	2.229	.001
Overall Responsiveness	-.024	.022	.020	-1.109	.269
Overall Empathy	.005	.022	.120	.223	.001
Overall Assurance	.056	.023	.224	2.460	.000

a. Dependent Variable: overall customer satisfaction

Relationship between overall service quality and customer satisfaction

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	overall quality[b]		Enter

a. Dependent Variable: overall

customer satisfaction

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.949^a	.901	.900	.29833	.901	1477.214	1	163	.000	.395

a. Predictors: (Constant), overall quality

b. Dependent Variable: overall customer satisfaction

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	131.469	1	131.469	1477.214	.000^b
	Residual	14.507	163	.089		
	Total	145.976	164			

a. Dependent Variable: overall customer satisfaction

b. Predictors: (Constant), overall quality

ST.MARY UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF MARKETING MANAGEMENT

QUESTIONNAIRE TO BE FILLED BY FIXED BROADBAND INTERNET (FBBI) SUBSCIBERS

Dear respondent,

I am post graduate student in department of Marketing Management from St. Mary's University. This questionnaire is part of the research project conducted for the fulfillment of the requirements in Master of Arts in Marketing Management. And the general purpose of this survey is to investigate the level of Ethio Telecom customer's satisfaction with regard to fixed broadband internet services and to explore the factors that affect their satisfaction. This survey targeted on fixed broadband internet users of Ethio Telecom only.

As your responses to the statements below are of great importance to my project work, hence you are kindly requested to give thoughtful and honest answer to each question. And be assured that all the information you provide will be treated with strictest confidentiality and is used only for research purpose.

Meanwhile, if you have any question(s) to ask please do not hesitate to contact me at any time through the following address: 0910797824/chalayobo@yahoo.com

Thank you for your cooperation,

ChalaGelana

Section I (Please tick (☐) in the box of your response for the following questions)

1. Sex: ☐ male   ☐ female

2. Age: ☐ 20 – 25 ☐ 26 – 30 ☐ 31 – 35 ☐ 36 – ☐   Above 40

3. What is you level of education?

   ☐ Certificate ☐ Diploma ☐ 1st Degree ☐ 2nd Degree and above

4. Occupational information; what is your occupation?

   ☐ Government Employee   ☐ NGO Employed   ☐ Self Employed &/or PLCs

   ☐ Service Companies (Bank, Ins., Hotel, college)   ☐ Other, please specify _____

5. What is your position in your company?

   ☐ IT head Management member ☐ Network administrator

   ☐ Staff/ End user   ☐ Others, please specify _____

6. For how long have you been working in the company?

   ☐ 1 to 3 years ☐ 4 to 6 years ☐ 6 to 8 year ☐ 8 to 10 years ☐ above 10 years

7. What is the amount of bandwidth you/your organization subscribe from ET?

   ☐ Less than 3Mbps   ☐ 3Mbps to 10Mbps

   ☐ 10Mbps to 50Mbps   ☐ More than 50Mbps

8. For how many computers do you use/share the speed that you subscribed?

   ☐ Less than 5 Computers ☐ 6 to 10 Computers

   ☐ 11 to 15 Computers ☐ 16 to 20 Computers

   ☐ Other, Please specify_____

9. To which categories of the following Ethio Telecom customer are you belong to?

   ☐ Key Account (Big Enterprise) ☐ Small and Medium Enterprise (SOHO/SME)

Section II.SERVQUAL ITEMS

Based on your experience as a customer of ET fixed broadband internet service, please rank your expectations and your perceptions of the service provided by Ethio telecom. Given below is a list of statements rating on a scale of 1 to 5 and you can circle the number that reflects your feeling.

Please Note that: **Strongly Disagree (SD)=1   Disagree(D)=2**
Neutral (Neither Agree nor disagree)(N)=3   Agree(A)=4 & Strongly Agree(SA)=5

SERVQUAL statements	A. What are your expectations of ET's broadband service? (**your Expectations)**					B. How do you **actually found/feel with** ET's broadband internet services provisioning, **(Your Perception)?**				
Tangibles	SD	D	N	A	SA	SD	D	N	A	SA
1 ET has up-to-date equipments to use for broadband internet service.	1	2	3	4	5	1	2	3	4	5
2 The physical facilities (such as office layout, furniture etc) visually appealing at the business centers of ET.	1	2	3	4	5	1	2	3	4	5
3 Employees (frontline, sales personnel and technicians) of the service provider are well dressed and appear neat.	1	2	3	4	5	1	2	3	4	5

4	Materials and equipments (such as modem, cooper, and fiber and customer premises equipment) will be in line with the type of services provide	1	2	3	4	5		1	2	3	4	5

	Reliability	your Expectations						Your Perception				
5	The behavior of employees creates confidence in customers.	1	2	3	4	5		1	2	3	4	5
6	ET Employees will have the knowledge to answer customers'questions.	1	2	3	4	5		1	2	3	4	5
7	ET employees do understand the specific needs of their customers.	1	2	3	4	5		1	2	3	4	5
8	Service provider does keep its records accurately.	1	2	3	4	5		1	2	3	4	5
	Responsiveness	*SD*	*D*	*N*	*A*	*SA*		*SD*	*D*	*N*	*A*	*SA*
9	Employees who involve in the delivery of the service (such as Front line, customer care, sales persons and technicians) will give prompt service to customers.	1	2	3	4	5		1	2	3	4	5
10	Employees who involve in delivery of the broadband internet service will always be willing to help customers	1	2	3	4	5		1	2	3	4	5
11	Service provider will have operating hours convenient to all its customers.	1	2	3	4	5		1	2	3	4	5

#	Statement	SD	D	N	A	SA		SD	D	N	A	SA
12	Employees of the service provider will never be too busy to respond to customers 'request promptly.	1	2	3	4	5		1	2	3	4	5

Assurance   SD   D   N   A   SA   SD   D   N   A   SA

#	Statement	SD	D	N	A	SA		SD	D	N	A	SA
13	The broadband internet service is provided at the promised time.	1	2	3	4	5		1	2	3	4	5
14	Employees of ET do tell customers exactly when the requested broadband service be performed.	1	2	3	4	5		1	2	3	4	5
15	When employees of the service provider promise to do something by a certain time, they will do so.	1	2	3	4	5		1	2	3	4	5
16	Customers will feel assured that service requests are duly (properly) followed up.	1	2	3	4	5		1	2	3	4	5

Empathy   SD   D   N   A   SA   SD   D   N   A   SA

#	Statement	SD	D	N	A	SA		SD	D	N	A	SA
17	Employees of service provider will give customer individual attention.	1	2	3	4	5		1	2	3	4	5
18	ET Employees will be consistently nice or courteous with customers.	1	2	3	4	5		1	2	3	4	5
19	When a customer faces a problem, employees of service provider do show a sincere interest in solving it.	1	2	3	4	5		1	2	3	4	5
20	Overall Employees of service provider do have their customer's best interests at heart.	1	2	3	4	5		1	2	3	4	5
Fixed broadband internet Network Quality												

21	Service provider provides network of 24hours a day and 7days a week without break.	1	2	3	4	5		1	2	3	4	5
22	Service provider's fixed broadband internet speed is high.	1	2	3	4	5		1	2	3	4	5
23	Service provider has consistent speed of fixed broadband internet service without major interruptions.	1	2	3	4	5		1	2	3	4	5
	Convenience											
24	Service provider will have sufficient offices in different geographic areas.	1	2	3	4	5		1	2	3	4	5
25	There will not be significant delay over maintenance of broadband connection.	1	2	3	4	5		1	2	3	4	5
26	Service provider will have convenient toll-free numbers and websites for customers for clarification of problems and to know account status.	1	2	3	4	5		1	2	3	4	5

Section IV: Satisfaction and overall quality. (Please encircle the number of your answer)

1. How do you evaluate the *overall quality* of fixed broadband internet services provided by ET?

Very poor   poor   Neutral   Good   Very good

   1   **2**   **3**   **4**   **5**

2. Overall, *how satisfied* are you with the fixed broadband internet services provided by ET?

Highly dissatisfied	Dissatisfied	Neutral	Satisfied	Highly Satisfied

1   **2**   **3**   **4**   **5**

Declaration

I, the under signed, declare that this thesis is my original work and has not been presented for a degree in any other university and that all sources of materials used for the thesis have been duly acknowledged.

Name: **Chala Gelana**

Signature: _____

Date: _____

This thesis has been submitted for examination with my approval as University Advisor

Name: **Dr. Shiferaw Mitiku**

Signature: _____

Date: _____